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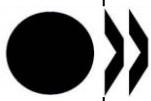


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No. 76

Open Educational Resources

ANALYSIS OF RESPONSES TO THE OECD
COUNTRY QUESTIONNAIRE

Jan Hylén, Dirk V. Damme, Fred Mulder,
Susan D'Antoni



OPEN EDUCATIONAL RESOURCES: ANALYSIS OF RESPONSES TO THE OECD COUNTRY QUESTIONNAIRE

EDU Working Paper 76

Jan Hylén; Dirk Van Damme; Fred Mulder; Susan D'Antoni

This working paper builds on exploratory and forward-looking research in CERI and invites countries to consider the policy implications of the expansion of OER, its benefits and associated challenges.

A small OER expert group was established to discuss the subject, link it to other relevant developments in the field, and develop a draft questionnaire for member countries in order to collect information regarding the policy context related to OER. The expert group met in June 2011 and for a second time in September 2011. The questionnaire was sent to the 34 OECD member countries in August 2011. It outlined a short informative note about the benefits and challenges of OER. The responses to the questionnaire are analysed in this document.

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SUMMARY

OECD's Centre for Educational Research and Innovation (CERI) has worked on Open Educational Resources (OER) in the past, which led to the publication *Giving Knowledge for Free – the Emergence of Open Educational Resources* (2007). This working paper thus builds on exploratory and forward-looking research in CERI and invites countries to consider the policy implications of the expansion of OER, its benefits and associated challenges.

A small OER expert group was established to discuss the subject, link it to other relevant developments in the field, and develop a draft questionnaire for member countries in order to collect information regarding the policy context related to OER. The expert group met in June 2011 and for a second time in September 2011. The questionnaire was sent to the 34 OECD member countries in August 2011. It outlined a short informative note about the benefits and challenges of OER. The responses to the questionnaire are analysed in this document.

RÉSUMÉ

Le Centre de l'OCDE pour la recherche et l'innovation dans l'enseignement (CERI) a déjà travaillé sur les ressources éducatives en libre accès (REL) et a publié un ouvrage sur ce sujet, *Giving Knowledge for Free – the Emergence of Open Educational Resources*, en 2007. Cet documents de travail s'inscrit donc dans la continuité des travaux prospectifs du CERI et invite les pays à examiner les implications de l'essor des ressources éducatives en libre accès sur l'action publique, ses avantages et les difficultés que cela pose.

Un petit groupe d'experts sur les REL a été créé pour étudier le sujet, la relier à d'autres évolutions intervenues dans le secteur, élaborer un projet de questionnaire à l'intention des pays membres afin de collecter des informations sur le contexte dans lequel s'inscrit les ressources éducatives en libre accès. Le groupe d'experts s'est réuni en juin puis à nouveau en septembre 2011. Le questionnaire, qui a été envoyé aux 34 pays membres de l'OCDE en août 2011, comprenait une courte note d'information sur les avantages et les difficultés liés aux REL. Les réponses au questionnaire sont analysées dans le présent document.

OPEN EDUCATIONAL RESOURCES

ANALYSIS OF RESPONSES TO THE OECD COUNTRY QUESTIONNAIRE

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Introduction

In order to collect information from the OECD member countries on some relevant policy developments regarding Open Educational Resources (OER), the OECD's Centre for Educational Research and Innovation (CERI)¹ carried out a questionnaire about OER. A Preamble (see Annex 1), describing the concept and development of OER during the last ten years, was distributed to all of the 34 member countries of OECD together with a questionnaire (see Annex 2). The questionnaire was sent out in early August 2011, and responses were collected until mid-October 2011.

Response rate

By the closing date of the questionnaire, 28 countries had replied, giving a response rate of 82%². The fact that eight out of ten countries responded is an impressive number, given the relatively short time to react. This bears witness to the importance many countries give to OER.

Analysis of the responses

OER activity

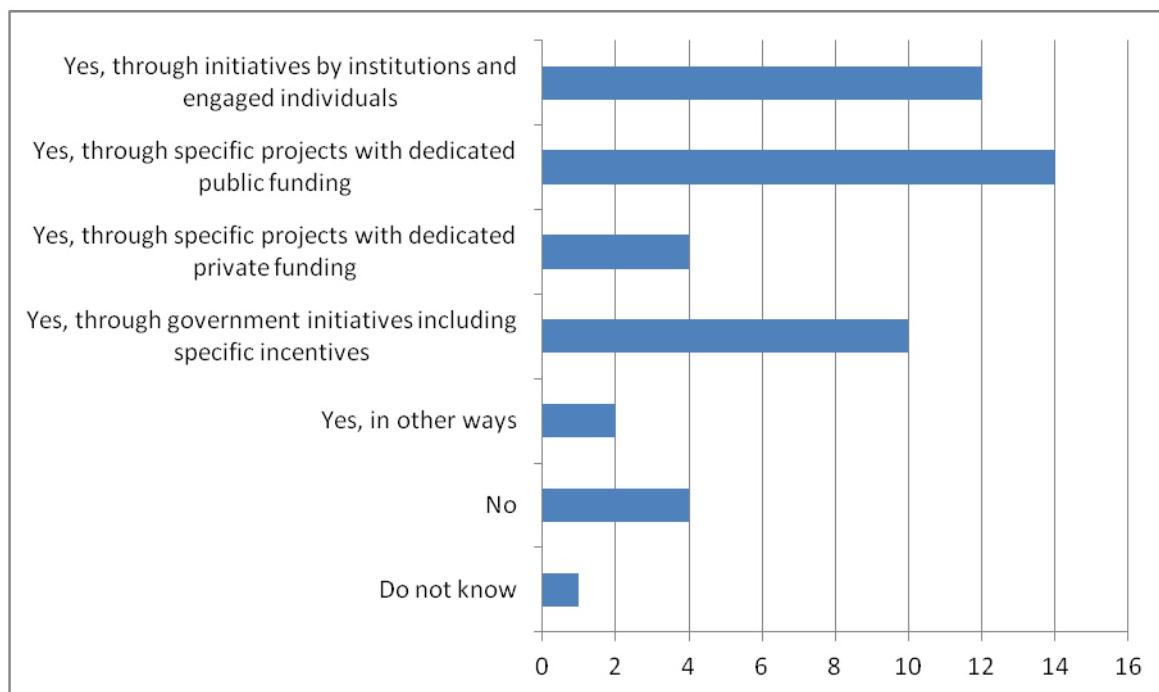
Countries were asked to estimate how active they are in the OER movement. As shown in Figure 1, 23 out of 28 countries responding indicated they are active in the OER movement in one way or another. Ten countries also give evidence that they are active in several ways. Seventeen countries indicate they have initiated projects, programmes, or other kind of government initiatives with dedicated public funding and different kinds of government support. Five countries (Hungary, the Netherlands, Switzerland, Turkey

and the United States) state that they are active both through special projects or programmes and government initiatives and incentives.

Canada reports that despite its relatively limited involvement in OER it does have some important areas of expertise, mostly on the tertiary level, which could be built upon or replicated more broadly. The Czech Republic states that since they fully support the concept of lifelong learning, their involvement in the OER movement and its promotion was a natural step further in this effort. Two countries, Finland and Slovenia, report that they are active in other ways, such as by providing government support to open access publishing and by funding school portals with digital learning resources.

Australia says that they do not have an OER policy at the federal level or state/territory department of Education. To date, the activity in Australia is better characterised by the Free for Education (FFE) movement, which is a part of the Open Education movement. Like OER, FFE materials are available at no cost for educational use, but unlike OER, FFE cannot be shared and usually cannot be modified or adapted. Japan indicates they have projects related to OER (that are being implemented by some institutions), but that there has been no national attempt to promote OER at this time.

Figure 1. OER activity in countries



Some countries, like Australia, Mexico, and the Netherlands, list a great number of projects of different sizes. All but five countries responding to the Questionnaire had some OER activities, and in a few of them the level of engagement and number of projects were impressive.

Reasons for being active in the OER movement

The most commonly mentioned policy argument for countries being active in the OER movement is the need to increase access to high quality learning resources. There are 22 countries that state their policy arguments, and 14 of these mention the need to increase access to digital learning resources. Many countries use similar arguments, such as the desire to support education for all, to promote self-learning and lifelong learning, to close social gaps, to raise the quality of teaching and encourage the modernisation

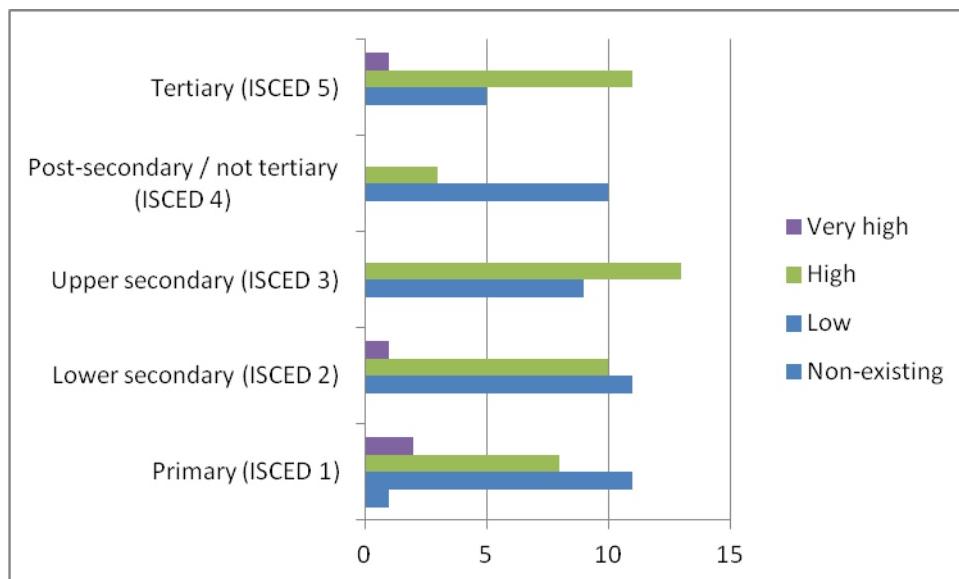
of teaching methods, to improve the cost-effectiveness or efficiency of education, and to stimulate sharing of materials and experiences between educational institutions and teachers.

Korea has stated that its main reason for promoting OER is to enhance the global competitiveness of higher education through open sharing. Israel looks at OER as a way to be on par with the latest academic developments in the world.

Level of OER activity

Figure 2 shows that OER activities are spread throughout all educational sectors. Primary, lower secondary and upper secondary education are about as involved in OER as tertiary education. In post-secondary non-tertiary education, the level of activity seems to be slightly lower. Most countries have simultaneously initiated activities in several educational sectors. Some, like Austria, Greece, Mexico and the Netherlands, are active over the full spectrum, with the exception of International Standard Classification of Education (ISCED)³ sector 4. Others have chosen to focus either on young children, like Belgium (FI), the Czech Republic, Portugal, and Spain, which are the most active in ISCED sectors 1 to 3, or older students, like in Finland which is most active in ISCED sector 5. The United States has a different strategy by being most active in ISCED sector 4. Korea is the only country reporting very high activity in the tertiary sector. Most countries appear to have responded to the question in terms of the intensity of activity among individual teachers and institutions.

Figure 2. Educational level of OER activity



Reasons for not being active in the OER movement

Four countries have stated why they are not involved in the OER movement. Australia says that it has yet to consider the adoption of an OER policy at a federal government and state/territory department of education level. A proposal is anticipated within the next 12 months recommending the adoption of an OER policy. Obstacles to such adoption in Australia include suspicions of private schools “freeloading” on publicly funded educational materials, unwillingness by commercial institutions and educators to share materials, and expectations of remuneration.

Germany has raised a number of fundamental objections to the idea of OER. They question whether a lack of digital content prevents learning, particularly in the case of people with low qualifications, and

whether well-educated people will benefit the most from OER. Furthermore, they ask if there are any sustainable business models for OER and suggest that there are questions of standards, quality, technical interoperability, and legal questions concerning copyright that have not yet been solved. The issue of copyright is widely discussed in Germany in reference to the ongoing Open Access debate.

In their response, Iceland has stated that it is not possible for their ministry of education to be active in the OER movement because it does not comply with current Icelandic law. However, Iceland plans to develop a dedicated governmental action plan regarding OER. In November 2011, Iceland's Ministry of Education hosted a conference on OER to introduce the ideology of the OER movement.

Switzerland reported having no countrywide OER activity. Those activities that do exist take place on the cantonal or local level.

Policy arguments for becoming active

Four countries have announced reasons they will become active in the OER movement in the near future. The Icelandic argument is to encourage professional knowledge exchange within the teachers' community. Korea says they would like to improve the quality of education through open sharing. The Norwegian government is encouraging universities to implement Open Access publishing.

Canada says it expects to become more active in the OER movement but notes that, while OER can reduce overall costs of producing educational materials, the cost of obtaining copyrights for these works may increase if the works of third parties who are subject to copyright are incorporated into these resources to be used globally. There is no nationwide agreement among the provinces and territories on the sharing of educational resources in Canada.

The above countries offer four arguments to become more active in this field: to increase the spread of new research; to increase debate in scientific publications; to increase the quality of published material; and to increase the supply of digital learning materials in schools.

Indications of OER activities in the near future

Countries that stated they have not yet been active in the OER movement were asked to indicate if they might become active in the near future. Three countries responded to the question. Australia and the Slovak Republic said that this could well happen in the near future. Australia added that, although policy arguments in favour of implementing an OER policy in the school sector are being developed, it may take another 12 months after such a policy is established to develop an appropriate implementation system. Iceland also states that they will probably develop a governmental action plan for OER in the near future.

Germany was the only country who responded that the OER issue is not expected to become a policy priority in the near future. They also stated that they do not consider a lack of learning material in digital format (especially in English) to be one of the major problems in education; therefore, the potential benefit of OER in Germany is not highly rated.

Thus, only one country out of 28 does not expect OER issues to be a policy priority in the near future.

Learning materials

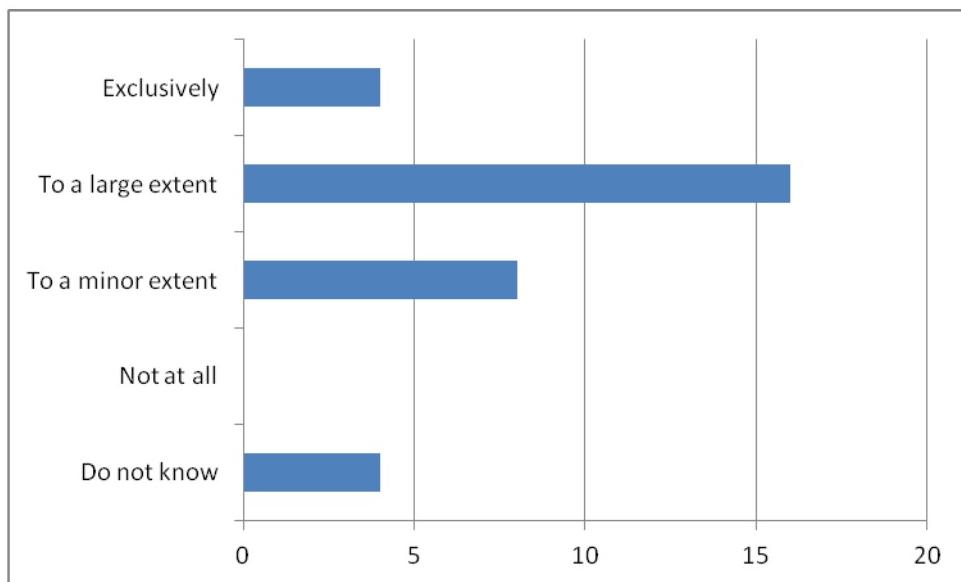
Production and financing of learning materials

One question addressed instructional materials (such as textbooks) other than learning aids prepared by teachers for use in their own schools. In some countries such materials are produced by public agencies.

In others, the materials are produced by commercial publishers but paid for or subsidised by public means. Finally, there are countries in which commercial publishers produce and publish learning materials in a competitive market. The specific question posed was to what extent learning materials are produced or paid for by public expenditure, either directly or indirectly.

Figure 3 shows that, in a majority of the countries responding to the questionnaire, government involvement in the production or financing of learning materials is extensive.

Figure 3. Learning materials produced or paid by public expenditure



Australia reports that considerable money is paid out by the education sector for compulsory and voluntary licenses. Examples given comprise more than AUD 75 million (EUR 61 million) for the right to use a variety of printed and digital learning materials. Austria states that textbooks and supplementary materials for primary and secondary education are free to students but that this is not the case in tertiary education. Universities buy or produce learning materials with an autonomous budget financed mainly by the federal state, and students have to pay for their own materials.

In Belgium (Fl), the government is not involved in producing or funding educational materials, except where these cannot be obtained. This has been the case for digital learning materials in special needs education and for adult learning, media literacy, and e-safety. In Canada, the extent to which learning materials are produced or paid for by public expenditure, whether directly or indirectly, varies by jurisdiction (province or territory) and by sector (ISCED 1 to 3 or ISCED 4 and 5). In Hungary, a differentiated situation also exists, depending on the educational sector.

In Finland, learning materials are mostly produced by publishers. Materials are subsidised and distributed for free in primary and lower secondary schools. The National Board of Education produces learning materials for prioritised areas and for public learning repositories (www.edu.fi) and in areas where the market is too small for private publishers. In Iceland, learning materials (books, online materials, video, CDs) for compulsory schools (ISCED 1 and 2) are produced at the National Centre for Educational Materials (NCEM), a state-run publishing house under the auspices of the Ministry of Culture and Education. The activities of the NCEM are financed by annual budget allocations from the Icelandic Parliament. There are also two funds run by the Ministry of Education: a fund for educational materials from which compulsory schools can make purchases and a development fund for educational materials to

which authors of materials for pre-primary schools, compulsory schools, and upper secondary schools (ISCED 1 to 3) can apply.

Japan's response was that, regarding learning materials in general, they cannot say to what extent these are directly or indirectly produced or paid for by public expenditures. Private-sector publishers write and compile textbooks. If they are approved by the Minister of Education, Culture, Sports, Science and Technology, the Japanese government bears the cost of textbooks for all students at national, public, and private compulsory-level schools (ISCED 1 and 2). In the Netherlands, the public funding of learning materials is through lump sum financing of schools or institutions in primary and secondary education (ISCED 1 to 3). The schools can then decide which materials they will purchase and generally place orders for educational materials from a competitive market of publishers. But they can also develop or use OER. In post-secondary and tertiary education (ISCED 4 to 5) students have to purchase the learning materials that are prescribed. Norway reports that the large government involvement in learning materials depends on the fact that both written and digital materials are free of charge to students in primary, lower secondary and upper secondary education (ISCED 1 to 3). In Slovenia, most learning materials are produced by commercial publishers, but some more specialised ones are produced by public agencies. The majority of textbooks are indirectly co-financed by the Ministry of Education. Other printed learning materials, such as exercise books, are paid for by parents.

Learning materials available in digital format

Countries were asked to roughly estimate what percentage of learning materials partially or entirely produced or paid for by public expenditure are available in digital format. Half of the countries surveyed said that they either did not know or preferred not to make an estimate. Seven countries estimated the amount to be 30% or less, four countries estimated 40% to 60%, and two countries, Poland and Spain, estimated that 90% of all publicly produced or financed learning materials are available in digital format.

Judging by the responses to this question, there is little information on the amount of learning resources available in digital format. Finland stated that it is difficult to measure or estimate the amount, since materials from real life (the out-of-school learning environment) are also used for educational purposes such as YouTube videos, blogs, and electronic newspapers. Moreover, it is likely that the quantity of learning resources available in digital format will increase in coming years. Israel, for example, reports that there is a demand that all learning resources should be available in digital format after 2013. The United States says that by law, all learning materials funded by or used by public institutions must, at a minimum, be available in a digital format for use by students with disabilities. However there is currently no estimate of what percentage of these materials are available for general use. Austria reports that they strongly emphasise open access publication of research results and articles, some of which can also be used in teaching.

Countries were also asked to estimate the percentage of such digital learning materials in the public domain (as referred to in the previous question) that are offered as OER. Again, most countries do not know or prefer not to give an estimate. Six countries estimate the amount to be 30% or less while another six countries believe the amount to be 80% or more.

Sweden states that it is difficult or impossible to estimate the percentage of digital learning materials being offered as OER since most initiatives are still limited in size. In some countries, such as Austria, the scarcity of information is due to the autonomy of higher education institutions. Other countries, such as the Netherlands, characterise their answer as a very rough estimate. The Netherlands also points out that some materials are developed by individual teachers for use only in their own classrooms.

Licensing of digital learning materials

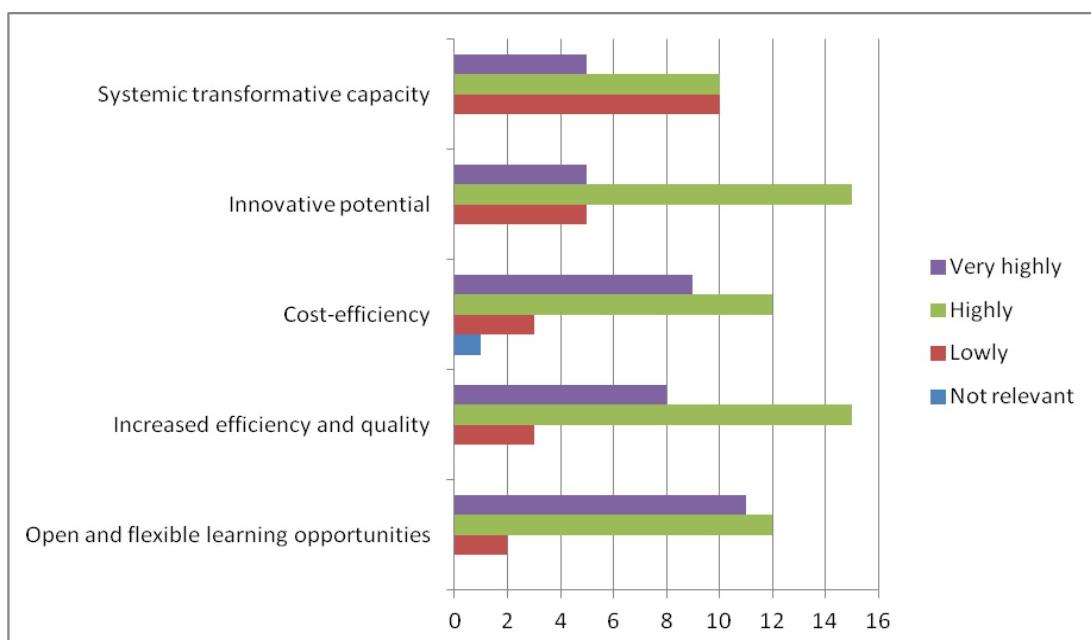
Countries were also asked which OER licenses are commonly available in their countries. A total of 14 countries stated that most OER offered in their countries are licensed under Creative Commons (CC) licenses. The most widely used CC license is Attribution (BY), often combined with the Non-Commercial (NC) and sometime also Share Alike (SA) licenses. The license CC-BY+NC allows others to remix, tweak, and build non-commercially upon the original work, and, although new works must also acknowledge the original creator and be non-commercial, the derivative works do not need to be licensed on the same terms. If this license is also combined with SA, new creations building on the original work must be licensed under the identical terms.

The United States and the Netherlands report that the most open licenses CC-BY are also the ones most used. In the Netherlands, these are sometimes combined with SA. In the United States, almost all content that is created by the federal government is placed in the public domain. Organisations that create content using public funds make their content available to the public through some form of open license, most commonly, CC-BY. OER created using private funds carry a wide variety of licenses; almost all have some form of CC.

Australia says that they have some concerns that the CC-NC license may prohibit the private school sector from using materials. In Austria, open source projects financed by the Ministry of Education generally follow the CC strategy, mostly *via* CC-SA. Austria has participated in several EU-funded projects for the school sector where it has accumulated expertise with these flexible licensing models. Israel reports that the use of CC is encouraged alongside more traditional formats of licensing. The issue of fair use, as an addition to the CC, is under consideration in compliance with the new Israeli copyright law of 2007. In Italy, most OER in higher education are licensed under CC licenses, but there is much less in the compulsory school sector. Mexico says that a high percentage of their instructional materials are available in digital format for viewing online although they do not know the exact quantity or if these materials are in the public domain.

Benefits of OER

Figure 4. Relevance of benefits of OER



Looking at the benefits of OER as shown in Figure 4, the most relevant advantage seems to be that OER offers open and flexible learning opportunities. Almost as advantageous is the increased efficiency and quality of learning resources. Cost efficiency is also seen by many as a benefit of OER although Turkey is the only country stating that this is not relevant. The innovative potential of OER seems to also attract the interest of countries while the capacity for systemic transformation appears to be less important.

Other benefits mentioned by countries are the possibility for teachers to re-use, modify and adapt resources and combine learning objects in new ways; the possibilities for active and independent learning; the rapid update cycle; the enhancement of intra and inter-institutional collaboration; the opportunity to make teaching activities visible to peers and to the public; and the ability to attract students. Further benefits listed are prolonging the content life cycle, making teaching activities capable of being referenced, and offering a single point of entry for a variety of e-learning materials and applications for administrative efficiency.

Research on OER

Although the OER movement is now more than a decade old, it is still not well covered by research. In order to get a better view of which areas of interest have been studied, countries were asked to indicate if any research or studies have been conducted in certain areas.

Figure 5. Studies or research on OER

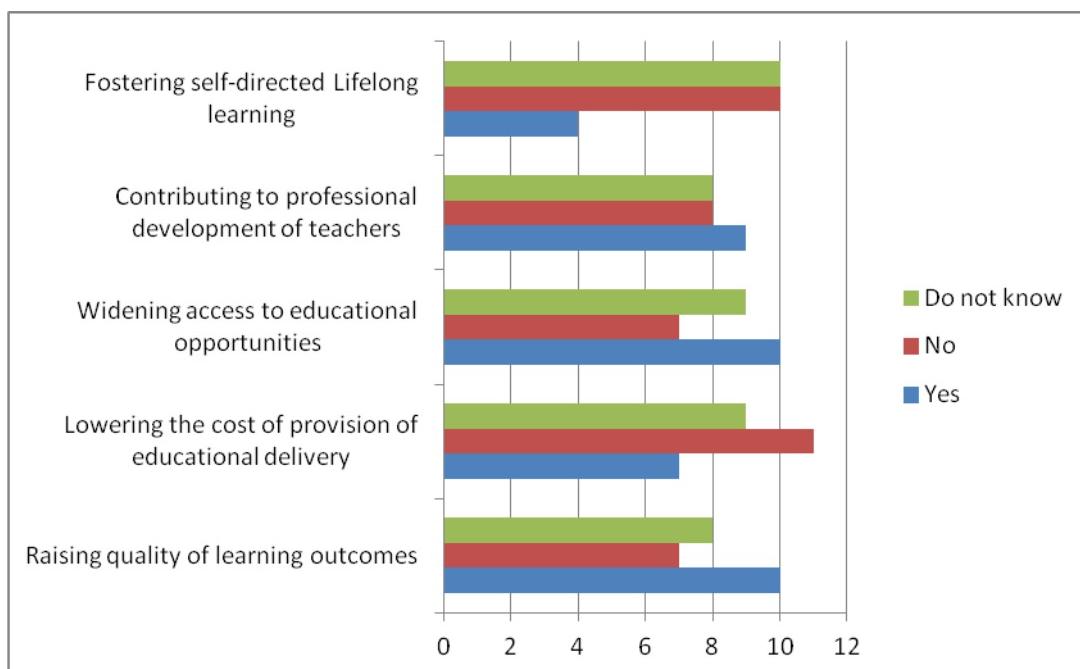
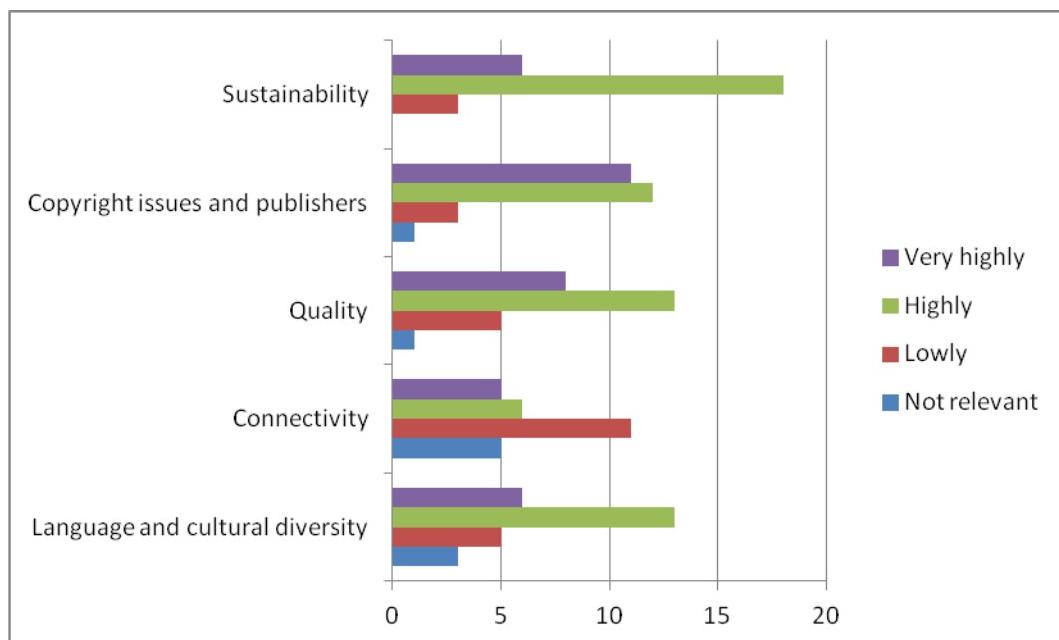


Figure 5 indicates that all the issues in the questionnaire have been addressed by at least some studies or research. Raising the quality of learning outcomes and widening the access to educational opportunities appear at present to be the two areas best covered by research. The contributions of OER to professional development and to lowering the cost of providing educational resources are somewhat less researched. The fostering of self-directed lifelong learning is the least studied among the areas mentioned in the Questionnaire. Although we do not know anything about the scale and scope of these studies, it appears that the OER movement has at least some research supporting its claims regarding the benefits OER offers.

Challenges with OER

The Preamble (Annex 1) sent out together with the Questionnaire (Annex 2) identified a number of challenges and ways to address them. Countries were asked how relevant these challenges were to them. As can be seen from Figure 6, copyright issues and publishers, together with the sustainability issue, seem to be the two areas of greatest concern for countries, followed closely by the issue of the quality of resources. Turkey was the only country listing copyright issues as not relevant. Connectivity was perceived as the least challenging issue by some countries, while others such as Mexico listed it as a very relevant problem. Internet providers have begun offering broadband services, but the coverage is only available in certain areas and the rates are high.

Figure 6. Relevance of challenges with OER



Language and cultural diversity is another area where countries diverge in their opinions. Regarding the language issue, Japan commented that considering the global sharing of resources, it may not be able to contribute since most of its resources are in Japanese; conversely, the benefits to Japan would also be limited.

Israel stated that promoting co-operation among institutions of higher education for the development of learning materials is another highly relevant challenge but that there has recently been a positive trend in this direction.

The United States commented that the challenges mentioned in the Preamble are highly relevant to a portion of its educational community although the level of importance depends on the individual or groups surveyed. Nevertheless, in the view of the United States, all of those challenges can be overcome.

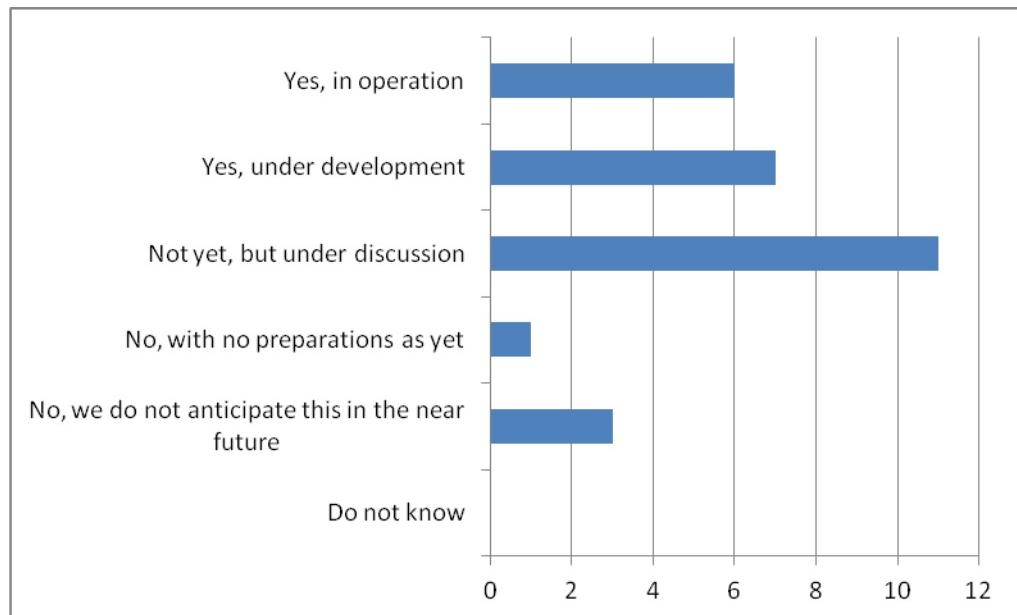
OER in government strategies or policy documents

Countries were asked if there were references to OER in any educational strategy planning documents or similar texts on the government, state, or regional level. Sixteen countries confirmed that such references exist and gave a long list of examples. Nine countries said they knew of no such references. Three countries did not respond to the question. The list of examples includes documents describing the

function and areas of responsibility of the Directorate that handles the educational portal in the Ministry of Education of Greece; the Information Strategy Plan of the Ministry of Education in Korea; the Education Sector Programme and the National Development Plan 2007-12 in Mexico; the *Wikiwijs* Program Plan 2011-13 in the Netherlands; and the National Education Technology Plan in the United States.

The Questionnaire also asked if the ministry of education, or any other public agency, had clear OER strategies or policies. As shown in Figure 7, six countries already have such strategies or policies in place, and seven more were in the process of developing them.⁴ There are 11 more countries currently discussing such strategies. Only three countries have not begun any preparations or do not anticipate such strategies to be pursued in the near future.

Figure 7. OER strategies



Austria supplemented its reply by saying that their Federal Ministry for Science and Research wants to set up a framework that encourages institutions to develop their own materials and make them available to all students. Canada comments that there is no government strategy at present, but there is discussion going on at the provincial/territorial level. In Mexico, institutions of higher education involved in distance learning are developing an OER strategy. The Netherlands points to its *Wikiwijs* programme as the national strategy. Turkey reports that its General Directorate for Lifelong Learning has currently been separated from the General Directorate of Educational Technologies in order to become more active in OER movement.

Government responsibilities

Countries were asked to reflect on some paragraphs in the Preamble discussing possible governmental responsibilities and tasks with regard to OER. They were asked to list the three most important of those responsibilities in their view. In the long and relatively scattered list of responsibilities mentioned, four issues stood out. These were: 1) promoting accessibility to learning resources, 2) improving the efficiency or cost effectiveness of education, 3) raising the quality of education, and 4) enhancing the awareness of OER. In summary, countries largely agreed with the discussion in the Preamble.

Other issues mentioned by countries were a) developing and implementing systems for the licensing of OER, b) redefining copyright and intellectual property regulations (Australia, Mexico, and Poland), c) developing technical standards for OER (Israel and Korea), and d) developing connections between OER, non-formal, informal, and lifelong learning (Italy).

Canada commented that, while the federal government has limited responsibility for education in its country, it does have an interest in Canadians possessing the skills they need to succeed. The government wants its labour force to be capable of driving innovation, productivity, and national economic growth. The fiscal impact of learning system costs on federal programs and expenditures (*e.g.* student loans, tax credits, transfers) is also a concern as is ensuring that governmental programs support and promote the learning innovation efforts of educators, learning institutions, and provincial governments.

Conclusions

Almost all OECD member countries indicate that they are in one way or another active in the area of OER, mostly by involvement with specific projects or programmes or through the initiative of institutions or engaged individuals. Several countries, especially those with federal systems, indicate that they have insufficient knowledge about the OER activities in their educational institutions. The most frequently cited policy reason for OER activity is the desire to increase access to high-quality learning materials.

In contrast to the conventional understanding that situates OER mainly on the post-secondary educational level, OER activity seems to be spread across the educational spectrum in the view of officials responding to the Questionnaire.

The majority of countries surveyed indicated that governments take great responsibility over the production, financing and distribution of educational resources although most countries have little information about whether these resources are also available in digital formats. Countries indicate that the use of licensing (CC licenses in particular) is well distributed. Nevertheless, precise information in this regard is generally lacking.

Countries attach a high importance to the cited benefits of OER. OER offers open and flexible learning opportunities. Almost equally appreciated is the cost efficiency of OER as well as the possibility of increased quality in learning resources and the increased flexibility that OER can offer.

Policy-relevant research on OER exists in some countries, but here again precise information is often lacking. At present, the two areas best covered by research are raising the quality of learning outcomes and the widening of access to educational opportunities.

NOTES

¹ OECD's Centre for Educational Research and Innovation (CERI) www.oecd.org/edu/ceri.

² The following OECD member countries responded to the Questionnaire: Australia, Austria, Belgium (Fl), Canada, Chile, Czech Republic, Finland, France, Germany, Greece, Hungary, Iceland, Israel, Italy Japan, Korea, Mexico, the Netherlands, Norway, Poland, Portugal, Slovak Republic, Slovenia, Sweden, Switzerland, Spain, Turkey, and the United States.

³ ISCED: International Standard Classification of Education www.uis.unesco.org/Education/Pages/international-standard-classification-of-education.aspx.

⁴ Austria has checked two boxes – both “yes, in operation” and “yes, under development”.

ANNEX 1.

PREAMBLE

Introduction

Open Educational Resources (OER) offer the prospect of an innovative and powerful approach to the development, dissemination and utilisation of knowledge. This has become manifest in a time when knowledge-based societies are maturing in the developed world. Emerging economies strongly depend on knowledge for their innovation agenda as well, and developing countries are bound to expand and improve their educational systems.

Taking into consideration this observation and the previous OECD work on OER and the CERI publication *Giving Knowledge for Free – the Emergence of Open Educational Resources* (2007),⁵ the OECD Education Policy Committee (EDPC) was invited by the United States Delegation in its April 2011 meeting to develop an OECD instrument on OER.⁶ From the possible OECD instruments a Recommendation⁷ or Declaration⁸ is envisaged. The purpose of such OECD Declaration or Recommendation would be to express the commitment of OECD member countries that they will freely share by electronic means all learning, training, and educational materials produced or paid for by their respective governments for public use in their countries with others around the world.

The first step in this process is information gathering in order to provide a solid basis for designing such an OECD instrument. Given the context described in this preamble all EDPC members are urgently invited to take part in this information-gathering activity by responding to the questionnaire in the second part of this document.

What are Open Educational Resources?

Open Educational Resources are digital learning resources offered online (although sometimes in print) freely and openly to teachers, educators, students, and independent learners in order to be used, shared, combined, adapted, and expanded in teaching, learning and research. They include learning content, software tools to develop, use and distribute, and implementation resources such as open licences. The learning content is educational material of a wide variety, from full courses to smaller units such as diagrams or test questions. It may include text, images, audio, video, simulations, games, portals, and the like.

The OER movement

The OER movement had its origins around 2000 and gained considerable visibility and momentum as the prestigious Massachusetts Institute of Technology (MIT) launched its large-scale OpenCourseWare (OCW) programme in 2001. UNESCO recognised the potential of OER for developing countries and coined the term Open Educational Resources in 2002, becoming an important player in raising global awareness as well as acting as a strong advocate of OER in the context of the Education for All movement. The William and Flora Hewlett Foundation has been instrumental in the OER movement through financial support and advice to numerous OER projects around the world. In 2005 the OpenCourseWare Consortium was established, which currently has over 300 education institutions and associated organisations in almost 50 countries as members.⁹ Also the Commonwealth of Learning should be mentioned as an important actor in the global OER movement.¹⁰

In 2006, the Open Universities of the United Kingdom and the Netherlands engaged in a significant way in the OER movement, offering OER learning materials for independent learners. In 2007, the Cape Town Open Education Declaration was published,¹¹ more or less similar to the (2003) Berlin Declaration on Open Access to Knowledge in the Sciences and Humanities. And in 2010, the first two UNESCO Chairs in OER were established in Canada and the Netherlands.¹²

During the first decade most initiatives were undertaken by innovative individuals and higher education institutions. There was an important expansion of OER initiatives in many countries, in different educational sectors, and with diverse objectives and approaches. Now, at the beginning of the second decade, there are promising signs of the development of national OER strategies and policies.

Drivers

There are technological, economic, social, and legal drivers behind the expansion of the OER movement. Educators and researchers relish the chance to exploit new broadband capabilities, improved technologies for creating and distributing content, and greater interactivity. The cost of these technologies is dropping. Sometimes the driver is competition with other institutions, using OER to attract new students and to improve public relations. But, most importantly, there is a strong sense in different parts of the educational community that OER offers a major opportunity to promote the notion of sharing knowledge as a public good.

Benefits

Open and flexible learning opportunities

OER offer a broader range of open and flexible learning opportunities, thereby facilitating informal and lifelong learning. The ease of access to high quality and relevant learning materials for any individual may promote broader participation in education. The use of OER is not restricted to distance education or e-learning since OER can also find their way in more traditional learning environments where they can help to enrich the learning experience. OER also has a strong social purpose since they can bring learning opportunities to hitherto disadvantaged and excluded groups of learners while they also help to mitigate the isolation of the diaspora of scholars.

Increased efficiency and quality of learning resources

The sharing and use of OER may result in increased efficiency and quality in the development of new materials, courses, or programmes. Collaboration and sharing of learning resources over the World Wide Web and the continuous potential revision of these materials not only keep them up-to-date and relevant, compared with resources that are published in more traditional ways, but their exposure to large communities of learners and educators also enhances their quality. Teachers have easier access as well to high-quality learning resources.

Cost-efficiency of OER

OER may also increase efficiency by reducing duplication and promote inter-institutional collaboration and sharing. High-quality learning resources are produced and shared at lower cost as a result of OER. Typically, OER also drastically reduces the cost of accessing learning resources for students, teachers, and institutions.

The innovative potential of OER

Because OER can be continuously adapted, reshaped, and transformed, learners become active participants in education by actively constructing what is learned, not by passively absorbing what has been prepared. But also the boundaries between learners and teachers become blurred as learners also engage in the process of continuous improvement of the learning resources. As the history of OER over the past decennium has shown, the existence and increased availability of OER also force educational institutions to transform their educational practice by investing more in the high-quality delivery of educational services than in the mere production of content.

Systemic transformative capacity

Using, producing, and sharing OER has benefits for individual learners, teachers, institutions, countries, and the global community at large. In fact, it can be seen as a systemic transformation in itself since it affects all parts of the educational system. To individual learners, OER offers open and flexible learning opportunities, and it increases and enlarges participation in education. To teachers, the production, sharing, and use of OER may result in increased professional recognition as well as in increased efficiency and quality in the development of new materials, courses, or programmes. To educational institutions, investment in an OER programme could attract new students and build the reputation of the institution at home and abroad. The release of OER increases transparency, which in turn promotes increased quality in materials. OER may also increase efficiency by reducing duplication, and promote inter-institutional collaboration and sharing. To countries, a nationwide approach to OER may result in increased support for open and flexible learning models in regular education, promotion of inter-institutional sharing and co-operation, reduced costs through the reduction of duplication of effort across institutions, improved accessibility of the educational system, and enhanced quality of the learning content base. To the global community OER promises the opportunity to share knowledge and expertise among different cultures and, more specifically, on global issues.

Challenges and answers

Language and cultural diversity

At present most of the OER learning materials are in English and from Anglo-Saxon countries, which raises the risk of linguistic and cultural hegemony. However, substantial efforts have already been put into translation, adaptation, and localisation for other cultural settings, for example, in China. Moreover, the volume of OER learning materials available in other languages (Spanish, Portuguese, French, and many others) and originating in diverse cultural contexts is growing significantly. Both processes contribute to a considerable increase in language and cultural diversity and global use. Since everyone can contribute to the global pool of resources, it can also be argued that there is a national responsibility to contribute to sharing the world's knowledge. Furthermore, scholars from the developing country diaspora could make a significant contribution by reframing their expanded knowledge into their original cultural context.

Connectivity

It is true that ease of connectivity is unequal around the globe. Learners and institutions in regions with no, low, or prohibitively expensive connectivity may obviously find it more difficult to access OER. Local measures of adaptation and facilitation may reduce this situation, even if not eliminating the problems completely. Moreover, it is only a matter of time before connectivity will be available in many more parts of the world, with a leapfrogging to the use of mobile wireless networks.

Quality

It is sometimes suggested that materials given away for free cannot be of high quality. But many of the institutions involved in OER so far seem to have high reputations internationally or in their own countries. Moreover, new ways of assuring and assessing quality are being developed, in co-existence with traditional quality assurance methods and mechanisms, some of them being copied from other parts of the open digital movement. Peer review of OER learning materials can be combined with user comments and ratings on the web. Adoption by recognised bodies in specific disciplines also offer great added value in this respect. Philanthropic organisations and National Governments have begun to address the criticisms of OER quality. The William and Flora Hewlett Foundation has commissioned the development of commercial grade content (textbooks) for community colleges in its Community College Access Project. The United States government through the issuance of its TAA SGA has also requested the development of materials of the highest quality. Because the content created in both of these initiatives will be licensed under a Creative Commons Attribution (CC-BY) license, it will be easily re-purposable for other educational sectors like secondary, university and the lifelong learner.

Copyright and publishers

While information technology makes it possible to replicate and distribute content worldwide at almost no cost, legal restrictions on the re-use of copyrighted material is a constraint. Frustrated by this obstacle, academics, teachers and learners worldwide have started to use open licences and to create a space in the Internet world – a “creative commons” – where people can share and reuse copyright material without fear of being sued. Copyright owners agree or give permission for their material to be shared through a generic licence that gives permission in advance. Creative Commons¹³ offers a set of licences for this purpose. The licensing model is now ported into the legal framework of 70 countries across the globe, and its use is growing exponentially.

The fact that the learning materials are available for free does not necessarily mean that OER threatens textbook publishers. Visionary and innovative publishers – both established ones and new players – are developing new business models around free content, linking OER with closed educational content and with learning services to be paid for. To facilitate such development, the most suitable Creative Commons licence is the most open one: CC-BY. This licence gives the maximum interoperability, so that commercial educational products and learning services can co-exist with OER.

Sustainability

Publishers are not alone in being challenged to build their business on new sustainable models. Educational institutions face their own financial sustainability struggle. Pilot projects and small-scale activities can be undertaken with dedicated project funding. The difficulty comes with large-scale initiatives and a possible conversion of all materials to OER, which require a substantial budget for the development and ongoing maintenance of the materials. There are different financial approaches to ensure the sustainability of an institutional OER effort, and some institutions have managed to do so. However, there is no clear-cut general solution. This bottleneck could be overcome if governments were to create the appropriate conditions and incentives for OER in their national educational systems, such that bottom-up institutional approaches and top-down governmental policies would come together.

National policy perspectives

Emerging national OER strategies and policies

India was the first country to embrace OER for a nationwide approach with its Report to the Nation 2007 of the National Knowledge Commission.¹⁴ It launched a national E-content and Curriculum Initiative

that has been followed up with a large variety of OER activities and projects. In 2009 the Minister of Education of the Netherlands launched the national *Wikiwijs* Program, which aims to mainstream OER in all educational sectors.¹⁵ The Program runs from 2009 until 2013 with a budget of EUR 8 million. And in 2011, the United States Departments of Labor and Education announced a four-year program to create OER for community colleges and career training, with a budget of USD 2 billion.¹⁶

Other countries have introduced specific measures, provision for collaboration and financial support to promote OER, or are considering a national approach to OER. Just mentioning a few (in alphabetical order), they include Brazil, China, Indonesia, Japan, Korea, Poland, South Africa, Turkey, United Kingdom, and Vietnam. Countries are taking different approaches in their OER policy development, but they are largely gradual. Some target a specific educational sector to start with (*e.g.* secondary or higher education); others focus on one or several disciplines (*e.g.* modern languages, mathematics, computer science, or health). A common view was that mainstreaming OER would require a long-term, step-by-step process, however, economic pressures on public sector education across the globe have accelerated the OER mainstreaming timeline.

Government responsibilities

If governments reflect on their threefold responsibility for education, that is, to promote and ensure its quality, its accessibility, and its efficiency, OER could prove to be an interesting option. It could be hypothesised that improvement in one of the three dimensions inevitably leads to deterioration in one or both of the other dimensions, at least under unaltered circumstances and conditions. The introduction of OER at the system level promises to facilitate the improvement along all three dimensions simultaneously: *quality* – by involvement of many experts and users in various roles; *accessibility* – by free online availability of learning materials; and *efficiency* – by not replicating other's efforts. And there is an important additional dimension – *innovation*.

It should be noted that mainstreaming OER through a national strategy does not necessarily presuppose an increase in the national education budget; it may only require a limited budget reallocation. Such a reallocation may place governments in a better position to fulfil their overall threefold responsibility for the quality, accessibility, and efficiency of education. Moreover, if they assume overall responsibility for OER, sustainability at the system level may be achieved, rather than leaving the responsibility for the sustainability of their OER initiatives to individual institutions.¹⁷

A national OER policy could also make an important contribution in implementing the OECD Skills Strategy,¹⁸ helping both OECD countries and non-member countries to accomplish the six objectives in the strategy: responsiveness, quality and efficiency in learning provision, flexibility in provision, transferability of skills, ease of access, and low costs of re-entry.

ANNEX 2.

QUESTIONNAIRE

Instructions

1. You are invited to include in your response additional documents or links to information on the web. Please specify the questions the documents address, as well as relevant page numbers.
 2. Feel free to give further explanation or comments to your replies in the area reserved for that after each question.
 3. Do not hesitate to tick off multiple answers when appropriate or necessary.
-

Country: [Click here to enter text.](#)

Name of respondent: [Click here to enter text.](#)

Function of respondent: [Click here to enter text.](#)

Is your country **active** in the OER movement?

- Yes, through initiatives by institutions and engaged individuals
 Yes, through specific projects or programmes with dedicated public funding
 Yes, through specific projects or programmes with dedicated private funding
 Yes, through government initiatives including specific measures and incentives
 Yes, otherwise. Please specify:
[Click here to enter text.](#)

No, not really

Do not know

Do you have any additional comments?

[Click here to enter text.](#)

If the answer to Question 1 is 'Yes', please specify the main policy **arguments** which convinced your country to be active in the OER movement.

[Click here to enter text.](#)

Do you have any additional comments?

[Click here to enter text.](#)

If the answer to Question 1 is 'Yes', can you specify the **level of activity** for each of the following educational subsectors?

	Non-existing	Low	High	Very high
Primary education (ISCED 1)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lower secondary (ISCED 2)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Upper secondary (ISCED 3)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Post-secondary/not tertiary (ISCED 4)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tertiary (ISCED 5)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Do you have any additional comments?

[Click here to enter text.](#)

If the answer to Question 1 is 'No', please specify the main policy **objections** or reasons which prevented your country to deploy any activity so far in the OER movement.

[Click here to enter text.](#)

Do you have any additional comments?

[Click here to enter text.](#)

If the answer to Question 1 is 'No', are there indications that your country will become an active player in the OER movement in the **near future**?

- Yes, by explicitly stimulating initiatives in this field
- Yes, by introducing subsidy programmes or project funding
- Yes, by developing a dedicated governmental action plan
- Yes, otherwise. Please specify:

[Click here to enter text.](#)

- No, not yet but it could well develop into a priority in the medium-term future
- No, we do not expect this to be or to become a priority

Do you have any additional comments?

[Click here to enter text.](#)

If the answer to Question 5 is 'Yes', please specify the main policy **arguments** which convinced your country to become active in the OER movement in the near future.

[Click here to enter text.](#)

Do you have any additional comments?

[Click here to enter text.](#)

If the answer to Question 5 is 'No', please specify the main policy **objections** or reasons which prevent your country to deploy any activity in the OER movement in the near future.

[Click here to enter text.](#)

Do you have any additional comments?

[Click here to enter text.](#)

This question refers to **learning materials** such as textbooks as well as other learning materials (but not including learning materials prepared by teachers for use in their own school). In some countries such materials are produced by public agencies. In other countries, the materials are produced by commercial publishers but paid for or subsidised by public means. Finally, in some countries commercial publishers produce and publish learning materials in a competitive market.

In your country to what extent are learning materials produced or paid for by public expenditure, directly or indirectly?

- Exclusively
- To a large extent
- To a minor extent
- Not at all
- Do not know

Do you have any additional comments?

Click here to enter text.

Of the learning materials partly or fully produced or paid for by public expenditure, what is your rough estimate of the percentage that is available in **digital format**?

Estimate %

- Do not know

Do you have any additional comments?

Click here to enter text.

What is your rough estimate of the percentage of such digital learning materials in the public domain (referred to in 0) that is offered as **Open Educational Resources** (OER)?

Estimate %

- Do not know

Do you have any additional comments?

Click here to enter text.

What is the situation regarding the **licensing** of such OER in the public domain in your country?

- Most OER offered in my country are licenced under Creative Commons licences.

If you happen to know which CC licence is most commonly used, please specify:
[Click here to enter text.](#)

Most OER offered in my country are licenced under other than CC licences

If you happen to know which licence is most commonly used, please specify:
[Click here to enter text.](#)

Only some OER are protected by CC or other licences

Most OER are not licenced

Do not know

Do you have any additional comments?

[Click here to enter text.](#)

The Preamble above refers in paragraphs 9 to 13 to a number of potential **benefits** of OER. You may think of other benefits as well. How relevant is each of these benefits for your country?

	Not relevant	Lowly	Highly	Very highly
Open and flexible learning opportunities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Increased efficiency and quality of learning resources	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cost-efficiency of OER	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The innovative potential of OER	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Their systemic transformative capacity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Any other? Please specify: Click here to enter text.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Any other? Please specify: Click here to enter text.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Do you have any additional comments?

[Click here to enter text.](#)

Has your country conducted any study or research on the contribution Open Educational Resources can make to the following **specific improvements in education?**

	Yes	No	Do not know
Raising the quality of learning outcomes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lowering the cost of provision of educational delivery	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Widening access to high-quality educational opportunities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Contributing to the professional development of teachers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fostering self-directed lifelong learning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Any other? Please specify: Click here to enter text.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Any other? Please specify: Click here to enter text.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Do you have any additional comments?

[Click here to enter text.](#)

The Preamble also identifies in paragraphs 14 to 19 a number of **challenges** and ways to address them.

How relevant is each of these challenges for your country?

	Not relevant	Lowly	Highly	Very highly
Language and cultural diversity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Connectivity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Quality	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Copyright issues and publishers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sustainability	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Any other? Please specify: Click here to enter text.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Any other? Please specify: Click here to enter text.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Do you have any additional comments?

[Click here to enter text.](#)

Is there **reference to OER** in any government or state/regional educational strategy, planning or similar documents?

No

Yes, please specify the title of the policy document and the page reference

Policy document 1: [Click here to enter text.](#)

Policy document 2: [Click here to enter text.](#)

Policy document 3: [Click here to enter text.](#)

Policy document 4: [Click here to enter text.](#)

Policy document 5: [Click here to enter text.](#)

Please briefly specify the nature of the reference:

Policy document 1: [Click here to enter text.](#)

Policy document 2: [Click here to enter text.](#)

Policy document 3: [Click here to enter text.](#)

Policy document 4: [Click here to enter text.](#)

Policy document 5: [Click here to enter text.](#)

Do you have any additional comments?

[Click here to enter text.](#)

In your country, has the education ministry (or another public agency) a clear **OER strategy or policy?**

- Yes, in operation
- Yes, in development
- Not yet, but under discussion
- No, with no preparations yet
- No, we do not anticipate this in the near future
- Do not know

Do you have any additional comments?

Click here to enter text.

The preamble discusses in paragraphs 22 to 24 some possible **governmental responsibilities and tasks** regarding OER. There may be others as well.

What do you see as the three most important responsibilities of government with regard to OER in your country?

1. Click here to enter text.
2. Click here to enter text.
3. Click here to enter text.

Do you have any additional comments?

Click here to enter text.

Would your country support the development of an OECD instrument on OER?

- Yes, certainly
- Probably, based on the information provided so far
- Possibly, but need more information
- Not at this stage, but our position might change during the discussion

Please specify why:

[Click here to enter text.](#)

- No, definitely not

Please specify why:

[Click here to enter text.](#)

- Another position, please specify:

[Click here to enter text.](#)

- Do not know

Do you have any additional comments?

[Click here to enter a date.](#)

RECENT OECD PUBLICATIONS OF RELEVANCE TO THIS WORKING PAPER

OECD (2007), *Giving Knowledge for Free: The Emergence of Open Educational Resources*, OECD Publishing. <http://dx.doi.org/10.1787/9789264032125-en>

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⁵ Available on: http://www.oecd.org/document/20/0,3746,en_2649_35845581_35023444_1_1_1_1,00.html.

⁶ http://www.oecd.org/document/46/0,3746,en_21571361_38481278_40899182_1_1_1_1,00.html)

⁷ “Recommendations are not legally binding, but practice accords them great moral force as representing the political will of Member countries and there is an expectation that member countries will do their utmost to fully implement a Recommendation. Thus, member countries which do not intend to do implement a Recommendation usually abstain when it is adopted.”

⁸ “Declarations: solemn texts setting out relatively precise policy commitments are subscribed to by the governments of member countries. They are not formal Acts of the Organisation and are not intended to be legally binding, but they are noted by the OECD Council and their application is generally monitored by the responsible OECD body.”

⁹ <http://www.ocwconsortium.org>.

¹⁰ See its recent publication together with UNESCO : UNESCO-COL, *A Basic Guide to Open Educational Resources (OER)*, 2011. Available at : <http://www.col.org/PublicationDocuments/Basic-Guide-To-OER.pdf>.

¹¹ <http://www.capetowndeclaration.org/>.

¹² A UNESCO/COL Chair at Athabasca University in Canada and a UNESCO Chair at Open Universiteit in the Netherlands.

¹³ <http://creativecommons.org/>

¹⁴ <http://knowledgecommission.gov.in/reports/report07.asp>

¹⁵ <http://www.wikiwijs.nl>

¹⁶ <http://www.whitehouse.gov/blog/Investing-in-Education-The-American-Graduation-Initiative/>

¹⁷ The line-of-thought in paragraphs 22 and 23 follows Sir John Daniel’s Iron Triangle concept regarding the use of ICTs in general (<http://www.col.org/resources/speeches/2009presentation/Pages/2009-07-06.aspx>) and ideas developed by Prof. Fred Mulder in his Rectorate farewell address at OUNL, December 2010 (http://www.ou.nl/Docs/dies%20natalis/Redeboek%20rectoraatsoverdracht%202010_DEF.pdf).

¹⁸ <http://www.oecd.org/dataoecd/58/27/47769000.pdf>